PROPRIETARY

DEVELOPMENT OF A BUSINESS PLAN FOR ENCRYPTION DEVICES

Purpose of this memorandum is to outline broad areas of investigation required to develop a detailed Business Plan for an enterprise that would develop and/or market encryption devices for non-military uses.

Major areas of immediate concern are:

- Major classifications of potential customers
- Major characteristics/problems in communication
- Security requirements
- Types/cost of encryption - status of technology
- Type of equipment - status of technology
- Use restrictions

The first three items form the core of the Market Analysis required and define the scope of this work; the last three items are all associated with Analysis of Technology available. These two broad areas obviously interact with each other with the basic question of cost of various devices being critical to the type of market to be pursued.

From this effort, detailed work requirements and schedule/organization and financial requirements will be developed.

I Market Analysis

A. Major classification of customers

1) Private

2) Commercial

3) Governmental
   a) military (to be excluded)
   b) non-military
      - enforcement
      - non-enforcement

B. Major characteristics of communication

1) Type of Input/Output
   a) Voice
      - analog
      - digital
   b) Data

2) Media of transmission
   a) Common carrier, public telephone
      - bandwidth
      - other limitations
   b) Coaxial cable/shielded twisted pair
      - local area networks
   c) Radio

3) Format (protocol) of data transmission

C. Security Requirements

1) Adversary
   a) Private/Commercial/Governmental
   b) Listen only/Distort

2) Qualitative classifications
   a) Curiosity/Vandalism
   b) Commercial Gain
      - market/commercial intelligence
      - monetary gain/theft
   c) Governmental

3) Time
   Value of information does/does not drop rapidly with time.

From this matrix, one will try to develop an estimate of size of market/needs/potential value of encryption devices. For example:

- Private customer/voice (analog)/telephone line/attempting to protect against "curiosity/vandalism" (teenage girl trying to keep a secret from her sister while talking to her boyfriend) is a large market; but it probably would not be willing to pay more than a nominal amount for security.

- Commercial customer/transmitting data/sensitive commercial intelligence (oil company sending seismic data from drilling operations to headquarters) is much smaller but would be willing to pay substantial amount for security. A commercial customer/transmitting data/theft (i.e., Electronic Funds Transfers) is an example of a customer probably willing to pay even more for security.

A second and parallel effort in the Analysis of Technology is required; a broad outline follows:

II Technology Analysis

A. Types of encryption (survey of unclassified publications - public key systems, etc.)

B. Types of equipment currently available

- Encryption
- Analog/Digital converters
- Competitive assessment

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C. Options for development

- General purpose ROM devices
- Custom design LSI circuits

D. Use restrictions

- Commercial
- Governmental

From this area, a broad understanding of cost and associated level of security will be developed. This, along with the Market Analysis work, will serve to guide the development of a Specific Business Plan, which includes assessment of organization required, financial requirements, and corporate structure.

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As a next step, interested parties with pertinent backgrounds in the various aspects of this potential enterprise should meet to develop a specific Work Effort along the lines suggested above.

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